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10/780,903

02/19/2004

Akihiko Maruyama

SE-US045035

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EXAMINER

MISKA, VIT W

ART UNIT

PAPER NUMBER

2833

MAIL DATE

DELIVERY MODE

07/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/780,903 | Applicant(s) MARUYAMA ET AL. | |
| | Examiner Vit W. Miska | Art Unit 2833 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10,12-15,18,19,21-23,26 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10,12-15,18,19,21-23,26 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Upon further review, the previous Office action was determined to be incomplete, and therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10, 12-15, 18-19, 21-23, 26 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu (20030198140) in view of Iino et al (6218769).
3. With respect to claims 10 and 18, Shimizu discloses a radio controlled timepiece, comprising: an antenna 21 being configured to receive electromagnetic waves; a communication unit 2 to communicate with an external communication device via the antenna, the communication unit having a receiving unit 22 receiving time information at a specific cycle from the outside via the antenna (par. 0081), and a current time counter

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unit 41 sequentially updating the current time information using the time corresponding to the time information received by the receiving unit as a reference; a drive unit 6, and a mechanical structure 6 provided with a time display unit 52-54 displaying time information, the mechanical structure displaying the time information on the time display unit on the basis of the current time information from the current time counter unit, the time display unit being operable while the electromagnetic waves are being received.

4. Shimizu further suggests that display 5 is driven by a stepping motor or “other driver” (par. 0099). The reference does not disclose a piezoelectric actuator as the drive unit for driving the display unit 52-54. However, the particular drive unit for driving display hands 52-54 would be selected by one of ordinary skill in the art from a number of known drive units suitable for driving the hands. A piezoelectric actuator or motor is a conventional driving means for actuating a mechanical time display in timepieces, as disclosed in Iino et al in Fig. 12 and described at col. 21, lines 26ff. The actuator may be used to drive a time indicating hand, as suggested at col. 21, lines 49 and 59. One of ordinary skill in the art having both references would thus be taught to use the ultrasonic (piezoelectric) actuator of Iino et al as the driver 6 of Shimizu as one of suitable and conventional drivers for the display hands. The use of such piezoelectric driver would further be contemplated by the skilled artisan in view of the known advantages over a stepping motor type drive unit.

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5. With respect to claims 12 and 13, lino et al further discloses wherein the mechanical structure further has a rotor 14a, and the piezoelectric actuator 10 is configured so as to drive rotatably the rotor 14a by elliptical movement resulting from a combination of longitudinal oscillation and curved oscillation (col. 9, lines 42ff), wherein the piezoelectric actuator comprises an oscillating plate 10 having a plate-shaped piezoelectric element 11 and a reinforcing plate 18 stacked on the piezoelectric element, a contact section ("projection") , col. 5, line 53) provided to the longitudinal tip of the oscillating plate, a support member (Fig. 1B, support at left end of 13), a holding section 13 to hold the oscillating plate on the support member, and the contact section is disposed at a location in which a rotor of the mechanical structure is driven by displacement resulting from the oscillation of the piezoelectric element (col. 5, lines 53-55).

6. Regarding claims 14-15, Shimizu further discloses pointers 52-54 and pointer driving actuator 6 for driving the pointers. With respect to the arrangement of the antenna and the driving actuator, it would be obvious for one of ordinary skill in the art to place these components in the timepiece such that space is conserved and in a manner to reduce possible interference between the antenna and the driving unit. Further, the location of the antenna overlapping or not overlapping the driving actuator as claimed appears to be arbitrary, since claims 14 and 15 recite both configurations as separate embodiments.

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7. With respect to claims 19 and 21, the steps claimed correspond to the functions performed by the structure set forth in pars. 3-5 above. Further, the preparation step corresponds to an assembly of the components in Shimizu and Iino et al. The corrections step is described at par. 0085.

8. With respect to claims 22 and 23, Shimizu further discloses a power source 140, standard oscillation signal source 31, timing IC 32.

9. Regarding claim 26, a generator 8 and storage unit 9 are further disclosed in a variation of the embodiment of Fig. 5.

10. The communication and reception details of claims 28-30 are disclosed in Shimizu at par. 0081.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references cited disclose piezoelectric drive units for timepieces.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vit W. Miska whose telephone number is 571-272-2108. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on 571-272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vit W. Miska/
Primary Examiner, Art Unit 2833

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